This listing of claims will replace all prior versions, and listings, of claims in the application:

1   Claim 1 (currently amended): A method of processing a
2   frequency division multiplexed signal including a plurality
3   of tones, the method comprising:
4   receiving said frequency division multiplexed
5   signal; ~~and~~
6   performing a constant modulus based update
7   operation to update a channel estimate corresponding to at
8   least one tone of the frequency division multiplexed
9   signal; and
10   <u>performing a decision directed channel estimate</u>
11 <u>update operation to update a channel estimate corresponding</u>
12 <u>to a second tone of the frequency division multiplexed</u>
13 <u>signal at the same time said constant modulus based update</u>
14 <u>operation is performed</u>.

1   Claim 2 (previously presented): The method of claim 1,
2   further comprising:
3   using the updated channel estimate to perform a
4   channel compensation operation on a portion of the
5   frequency division multiplexed signal corresponding to said
6   at least one tone.

1   Claim 3 (original): The method of claim 1, further
2   comprising:
3   performing a reduced constellation decision
4   directed update operation to update said channel estimate.

1   Claim 4 (original): The method of claim 3, further
2   comprising:

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3   performing a full constellation decision directed
4   update operation to update said channel estimate.

1   Claim 5 (original): The method of claim 4, further
2   comprising:
3   receiving, as part of said frequency division
4   multiplexed signal, a pilot transmitted on said at least
5   one tone; and
6   using said received pilot to update said channel
7   estimate.

1   Claim 6 (original): The method of claim 1, further
2   comprising:
3   generating a signal noise measurement value for
4   said at least one tone;
5   comparing the signal noise measurement value to a
6   first threshold; and
7   selecting a channel estimate update method, as a
8   function of the comparison of the signal noise measurement
9   value to the first threshold, from a plurality of different
10   channel estimation update methods.

1   Claim 7 (original): The method of claim 6, wherein the
2   plurality of different channel estimation update methods
3   include at least one of a constant modulus based update
4   method and an interpolated pilot value based method.

1   Claim 8 (original): The method of claim 6,
2   wherein the plurality of different channel estimation
3   update methods include at least one of a reduced
4   constellation decision directed update method and a full
5   constellation decision directed update method.

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1   Claim 9 (currently amended): ~~The method of claim 6,~~
2   ~~further comprising.~~ A method of processing a frequency
3   division multiplexed signal including a plurality of tones,
4   the method comprising:
5   receiving said frequency division multiplexed
6   signal;
7   performing a constant modulus based update
8   operation to update a channel estimate corresponding to at
9   least one tone of the frequency division multiplexed
10 signal;
11   generating a signal noise measurement value for
12 said at least one tone;
13   comparing the signal noise measurement value to a
14 first threshold;
15   selecting a channel estimate update method, as a
16 function of the comparison of the signal noise measurement
17 value to the first threshold, from a plurality of different
18 channel estimation update methods; and
19   when said comparison of the signal noise
20 measurement value to the first threshold indicates that the
21 signal noise measurement value does not exceed said first
22 threshold,
23   comparing the signal noise measurement value to a
24 second threshold; and
25   wherein the step of selecting a channel estimate
26 update method is also performed as a function of the
27 comparison of the signal noise measurement value to the
28 second threshold.

1   Claim 10 (original): The method of claim 9, wherein a
2   reduced constellation decision directed channel estimate

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3   update method is selected when the comparison of the signal

4   noise measurement value to the second threshold indicates

5   that the signal noise measurement value exceeds the second

6   threshold and wherein a full constellation decision

7   directed channel estimate update method is selected when

8   the comparison indicates that the signal noise measurement

9   value is below the second threshold.

1   Claims 11-18 (canceled):

1   Claim 19 (currently amended): ~~The method of claim 18,~~

2   ~~further comprising:~~ A method of updating a channel estimate

3   for a carrier signal of an orthogonal frequency division

4   multiplexed communications signal, the method comprising:

5   receiving the carrier signal;

6   performing a reduced constellation decision

7   directed channel estimate update operation, using the

8   received carrier signal, to update said channel estimate;

9   and

10   after performing said reduced constellation

11   decision directed channel estimate update operation

12   performing a full constellation decision directed channel

13   estimate update operation.

1   Claim 20 (original): The method of claim 19, further

2   comprising:

3   generating a signal noise measurement;

4   comparing the signal noise measurement to a

5   threshold; and

6   using the results of the comparison to determine

7   when to switch from performing said reduced constellation

8   decision directed channel estimate update operation to

5

9   performing the full constellation decision directed channel

10 estimate update operation.

1 Claim 21-22 (canceled):

1 Claim 23 (currently amended): ~~The method of claim 22,~~ A

2 method of updating a channel estimates for carrier signals

3 of an orthogonal frequency division multiplexed

4 communications signal, the method comprising:

5   receiving the carrier signals;

6   performing a reduced decision directed channel

7 estimate update operation, for at least a first plurality

8 of the received carrier signals of said orthogonal

9 frequency division multiplexed communications signal;

10 comparing a signal noise value to a threshold; and

11   selecting for at least one of said received

12 carrier signals, as a function of said comparison, between

13 performing a decision directed channel estimate update

14 operation and performing a constant modulus based channel

15 estimate update operation; and

16   wherein a constant modulus based channel estimate

17 update operation is performed for one carrier signal at the

18 same time a reduced decision directed channel estimate

19 update operation is performed for another carrier signal.

1   Claim 24-31 (canceled):

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